UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,937	07/24/2001	Amit S. Phadnis	CSCO-005/2899	4820

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LAW FIRM OF NAREN THAPPETA
C/O LANDON IP, INC.
1700 DIAGONAL ROAD, SUITE 450
ALEXANDRIA, VA   22314

EXAMINER
CHEN, ALAN S

ART UNIT	PAPER NUMBER
2182	

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>20 July 2005</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-44* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>24 July 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   The affidavit and declaration filed on 07/20/2005 under 37 CFR 1.131 is sufficient to

overcome the Hariu reference. However, this is moot in view of a new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness
        or nonobviousness.

4.   This application currently names joint inventors. In considering patentability of the

claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c)

and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5.   Claims 1-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dobson as in

view of Bhatia et al. (Bhatia) and Hirano.

6.   Referring to claim 1, Dobson teaches a gateway 100 and a NAT module 212 that

runs the NAT services, wherein the devices on the DMT LAN 20 appear as a single IP address

and uses private addressing, thus allowing the devices to communicate with external networks

90, including the Internet. DMT LAN20 uses private addressing, and a PPP session can be

initiated via the PPP module 224 via multi-point forwarder 60, that enables the necessary routing

functionality between local devices 70 and the external WAN environment 90. Note also a

firewall 218. When a local device 70, known locally by its private address desires to

communicate with a device on network 90, the request is sent to gateway 100, wherein the

forwarder 60 translates the private address to a common IP address assigned to the gateway 100.

See Figure 2 and columns 5 and 6. Note also that the gateway 100 has a public address for

communicating with the public network 90. See column 7, lines 24-34. What is missing is the

use of a plurality of NAT tables in the gateway.

In Bhatia, one finds the use of multiple network addressing tables (Fig. 5, element 435

and 514; note that Bhatia explicitly states elements 435 and 514 are equivalent, only that the

static table is manually entered by a user; also see the definition of "NAT" ASC from

www.webopedia.com=>NAT, which both elements 435 and 514 meet) stored in a gateway (Fig.

5, element 300), where both tables translate between private and public addresses in the same

way Dobson must translate between private addresses on the LAN to public address on the

WAN. Bhatia has a priority scheme where the static NAT table is checked prior to the dynamic

NAT table (elements 809 and 824). Bhatia also teaches the gateway being an ISDN LAN

modem/router (Fig. 2A, element 200). Bhatia teaches that the advantage of having the static

table is to allow the user to specify exactly which workstation on the LAN to route a packet

(Column 2, lines 39-44) which would be advantageous for setting up or testing networks, etc.

Hirano further shows details of public/global to private address translation on ISDN

networks, Figure 5, a NAT router that has a separate NAT PP and LAN NAT, so that a

computer, for example on network 1 can communicate with a computer attached to the ISDN,

with the NAT function per Figure 6, with translation between global and private addresses per

Figure 8. Note also that a computer on network 1 can communicate with one on network 2, with

NAT occurring at LAN2a, which requires the translations described at columns 6 and 7.

Therefore it would have been obvious to one having ordinary skill in the art at the time

that the invention was made to modify the teachings of Dobson per those of Bhatia and Hirano

for the express purpose of having multiple address translation tables where Bhatia teaches the

flexibility of allow a user to manually enter the NAT address into a table (Column 2, lines 39-44)

while the other table relies on automated means, both of which translate public and private

address and Hirano details separate NATs in a single device are used to translate the

public/global and private addresses as a translation requires a received packet with an original

address that is then translated by the appropriate NAT table and then sent with a new address as a

result of the translation.

7.   Per Claim 2, it is to be noted that the combined teachings represent

a service selection gateway, as there are a plurality of logically separated

networks, which represent service domains, to which the remote systems are to

be connected, as a function of the appropriate NATs. For example, the Bhatia

reference teaches the private and global addresses associated with networks

and users (Fig. 1, multiple users 10a-10d, and multiple networks 50-70), as does Dobson and

Hirano. Thus the combined teachings have NAT tables based upon the individual address

translation functions. Thus the NAT tables store information in tables partitioned according to

the individual NAT functions that map the private to global addresses in a single

service domain/network.

8.   Per Claims 3 and 4, each row of the NAT table apply to only a translation of a single

domain (Fig. 8 of Hirano and Table 1 of Bhatia show only the one to one mapping) where the

whole NAT table has mapping to multiple networks.

9.   Per Claims 5 and 6, the original addresses can be local and the mapped address can be

external per Dobson 20 and 90, which is described as being an external WAN, as well as the

translations of Hirano. Bhatia shows mapping addresses to remote systems (element 60 and 70).

10.   Per Claim 7, Dobson describes the set up of a PPP session at any local device

70 for PPP sessions handled via the NAT 212, see column 6, Iines 1-14. Thus

local addresses are assigned as the devices 70 are on the local network with the

private addresses, as opposed to the external addresses on the WAN/Internet

90. The combined references teach the storing of services available (i.e.

translation) with proper translation based upon the source and destination

addresses.

11.   Per Claims 8 and 9, Hirano shows separate NAT blocks (Fig. 8) for the NAT tables,

presumably the same as any standard NAT table.

12.   Per Claim 10, the combined references teach the bidirectional nature of communication, the source at the external network with a destination on the local network.

13.   Per Claims 11 and 12, the global forwarding is seen in Fig. 8 of Hirano, the combined references all have IP.

14.   Per Claim 13-19, the means corresponding to the method analysis of claim 1 have been pointed out by reference numeral in the individual references, and is thus rendered obvious for the same reasons. Similarly, the means corresponding to claims 14-19 parallel the analysis of the method steps 2-9.

15.   Per Claims 20-31, such are likewise rendered obvious per the analysis of parallel method claims 1-12, noting that the combined references are all computer based and thus require a computer readable medium in order to function properly.

16.   Per Claims 32-44, the combined references show a gateway device per the analysis of the method claims 1-12, noting that the apparatus limitations have been set forth in the method step analysis. Hence the claims are rendered obvious for the same reasons. Note that the Bhatia and Hirano references show that the NAT tables are in the form of a memory, with the individual NAT tables formed of separate units (Fig. 5, elements 435 and 514). Note that service selection is carried out per Bhatia (Fig. 8, element 840).

Conclusion

17.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan S. Chen whose telephone number is 571-272-4143. The examiner can normally be reached on M-F 8:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Dov Popovici can be reached on (571) 272-4083. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ASC
08/16/2005

KIM HUYNH
PRIMARY EXAMINER

8/17/05